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Comparison of the structures of meteor streams of cometary and possible asteroidal origin

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Abstract

© 2016, Pleiades Publishing, Inc.The structures of the meteor streams of cometary origin—Draconids, Ursids, Perseids, and Lyrids—and the streams presumably connected with asteroids—Taurids and α-Capricornids—are compared. The comparative analysis was performed by the mass distribution of meteoroids in the stream and the activity profile for the meteors with the maximum recorded stellar magnitude +3m and brighter. Visual observations of 1987–2008 from the database of the International Meteor Organization (IMO) and earlier sources were considered. It has been shown that the structures of the meteor streams of cometary and, presumably, asteroidal origin differ somewhat by the activity profile and the mass distribution of meteoroids in the cross-section of a stream along the Earth's orbit.

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Keywords

asteroid, comet, meteor, meteor stream, meteoroid